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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,494	08/18/2003	Koji Motoyama	0033-0897P	1856

2292 7590 06/02/2005

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EXAMINER

KHAN, SUHAIL

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/642,494

Applicant(s)

MOTOYAMA, KOJI

Examiner

Suhail Khan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/2/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application EP 0718964 A2 to Kennan, in view of U.S. Patent No. 5801590 to Kashima et al.

Referring to claim 1, Kennan discloses a low noise block down converter (col 1, lines 5-10, Low Noise Block Downconverters), comprising: a plurality of local oscillators (col 2, lines 13-15, two FET oscillators) each including a dielectric resonator (col 2, lines 15-20, dielectric resonator) and having an oscillation frequency different from each other (col 2, lines 5-10, two different frequencies). Kennan does not disclose an electromagnetic coupling preventing member preventing electromagnetic coupling between one and another one of said dielectric resonators; and a metal shielding box including: one shielding chamber accommodating said plurality of local oscillators and said electromagnetic coupling preventing member.

However, Kashima et al disclose a screw that can vary the distance to the dielectric resonator (col 3, lines 58-60) and a shield case (col 4, lines 15-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kennan to show a low noise block down converter, comprising: a plurality of local oscillators each including a dielectric resonator and having an oscillation frequency different from each other; an electromagnetic coupling preventing member preventing

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electromagnetic coupling between one and another one of said dielectric resonators; and a metal shielding box including: one shielding chamber accommodating said plurality of local oscillators and said electromagnetic coupling preventing member, the motivation being allowing the degree of coupling to be freely set (Kashima et al, Abstract).

Referring to claim 2, Kennan discloses the low noise block down converter (col 1, lines 5-10, Low Noise Block Downconverters) according to claim 1 and receiving a reference potential (col 3, lines 9-12, applying a first potential to the input). Kennan does not disclose an electromagnetic coupling preventing member which includes a conductive bar having one end extending between any two of said dielectric resonators.

However, Kashima et al disclose a screw that can vary the distance to the dielectric resonator (col 3, lines 58-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kennan to show the low noise block down converter, wherein said electromagnetic coupling preventing member includes a conductive bar having one end extending between any two of said dielectric resonators and receiving a reference potential, the motivation being allowing the degree of coupling to be freely set (Kashima et al, Abstract).

Referring to claim 3, Kennan discloses the low noise block down converter (col 1, lines 5-10, Low Noise Block Downconverters) according to claim 1, further comprising plurality of local oscillators (col 2, lines 13-15, two FET oscillators), two of said dielectric resonators (col 2, lines 15-20, dielectric resonator) and receiving a reference potential (col 3, lines 9-12, applying a first potential to the input). Kennan does not disclose a substrate having a surface on which the

local oscillators are mounted and an electromagnetic coupling preventing member which includes a conductive pattern formed on the surface of said substrate.

However, Kashima et al disclose a screw that can vary the distance to the dielectric resonator (col 3, lines 58-60) and dielectric substrate (col 3, lines 27-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kennan to show the low noise block down converter, further comprising a substrate having a surface on which said plurality of local oscillators are mounted, wherein said electromagnetic coupling preventing member includes a conductive pattern formed on the surface of said substrate between any two of said dielectric resonators and receiving a reference potential, the motivation being to enhance the production efficiency and reduce the cost (Kashima et al, col 2, lines 23-26).

Referring to claim 4, Kennan discloses the low noise block down converter (col 1, lines 5-10, Low Noise Block Downconverters) according to claim 1. Kennan does not disclose an electromagnetic coupling preventing member which includes a metal plate provided between any two of said dielectric resonators and receiving a reference potential.

However, Kashima et al disclose a screw that can vary the distance to the dielectric resonator (col 3, lines 58-60) and a metal plate (col 3, lines 27-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kennan to show the low noise block down converter, wherein said electromagnetic coupling preventing member includes a metal plate provided between any two of said dielectric resonators and receiving a reference potential, the motivation being allowing the degree of coupling to be freely set (Kashima et al, Abstract).

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Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to Block Down Converters:

U.S. Pat. No. 5940750 to Wang

U.S. Pat. No. 5584064 to Nakamura

U.S. Pat. No. 5046135 to Hatcher

U.S. Pat. No. 5008956 to Hemmie


U.S. Pat. No. 5125109 to Geller et al

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suhail Khan whose telephone number is (703) 305-8730. The examiner can normally be reached on M-F from 7:30 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached at (703) 305-4379. The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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W. R. YOUNG
PRIMARY EXAMINER